Amendments to the Specification:

Please replace paragraph [8] with the following amended paragraph:

In such a phase estimator ~~120~~ 130, averagers 137 and 138 are used to obtain more accurate phase information. The CPU 120 clears the initial values of the averagers 137 and 138, after estimating the synchronization with the matched filter, so that the averagers 137 and 138 cannot be affected by inaccurate data prior to estimating synchronization. That is, after clearing the initial values of the averagers to "0," with the CPU 120, the output values of adders 135 and 136 are averaged for a predetermined time and used as the phase information.

Please replace paragraph [11] with the following amended paragraph:

As illustrated in Fig. 1, a preamble for synchronization acquisition, a preamble for phase extraction, and data are transmitted in the case of transmitting the packet data. The preamble for phase extraction of predetermined bits must be transmitted regardless of the preamble for synchronization acquisition. In other words, the preamble for phase extraction is transmitted even after transmitting the preamble for synchronization acquisition, thereby reducing the transmission rate of the full data in the related method.

Please replace paragraph [32] with the following amended paragraph:

Fig. 4 is a block diagram of a phase estimator using a matched filter according to the present invention. A matched filter 10 outputs time information (Locked Position), a correlation value (Locked ~~Position~~ Energy) for synchronization of input data (I, Q), and a converted phase

value (Cos A, Sin A) of a pilot signal; multipliers 31 through 34 multiply the received data and a

code generated from a code generator; adders 35 and 36 add the data outputted from the

multipliers; a phase estimator 30, having two averagers 37 and 38, obtains an average value of

the data outputted from the adders and the matched filter; a delayer 39, connected to the

averagers, sends a feedback of the phase information outputted from the averagers to the

averagers when generating new phase information; and a CPU 20 inputs the converted phase

value (Cos A, Sin A) of the pilot signal, outputted from the matched filter, into the averagers and

initializes the averagers.